

BLINDNESS FROM THE PRACTITIONER'S STANDPOINT

ORATION ON SURGERY

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BLUEFIELD, WEST VIRGINIA

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**BLINDNESS FROM THE PRACTITIONER'S
STANDPOINT *
ORATION ON SURGERY**

By J. E. BLAYDES, M. D.
Bluefield, W. Va.

THROUGHOUT the ages people have been accustomed to refer to the heart as the seat of desire, anger, love, and passion. Yet the heart is a hollow, muscular pump, delicate in structure, its function being to force the blood through the body. Emotions arising in the brain will influence its rate. It is not, therefore, the seat of any emotion.

What a very different story is revealed by a study of the eyes! In this organ is reflected the very soul; the entire body may be changed by artifice, but the eyes remain unchanged. They reveal ambition, stability, intelligence and character. Hence, it is vitally important that the care of the eye be the responsibility of, not only the specialist, but of all medical practitioners.

IT IS, in fact, self-evident that today, more than ever before, close integration of the specialties is necessary to insure the most nearly perfect application of the healing art. It naturally

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follows that a moderate but accurate understanding of the history, armamentarium and limitations of our many specialties be present in the minds of our brothers in medicine, particularly those specializing in general practice, internal medicine, and pediatrics.

It is, therefore, with pleasure that the speaker grasps the opportunity to present to this group a few of the pertinent facts that may be brought to bear upon this subject. They are not new, but are correlated here to clarify, if possible, a few of the situations which occur regularly in the practice of every ophthalmologist and which leave so much to be desired in the interests of both the patient and the physician. What ophthalmologist has not felt within himself reproach for failure to secure adequate medical supervision for the case presenting retinal hemorrhages and vascular changes when suddenly confronted with the news of his patient's death as the result of a cerebral accident?

AS a specialty, ophthalmology occupies a unique position historically, having been the first to emerge from the field of general medicine and surgery ten or fifteen centuries before Christ, with its beginning in ancient Babylon-Assyria.

WHILE the time of the first application of the theory and practice of ophthalmology is not known, the earliest mention of the sub-

ject is found, not in a medical journal but, curiously enough, in a law book of 2250 B.C. In this are passages specifying the emoluments and penalties of physicians. For instance: "If a physician . . . open an abscess (in the eye) of a man with a bronze lancet and save that man's eye, he shall receive ten shekels of silver" (as his fee.) If, however, the law book sets forth, the physician "destroy the man's eye, they shall cut off his fingers." It is needless to point out that such penalties are not only quaint but, from the modern viewpoint, entirely unjust.

THE earliest record of ophthalmology in Egypt goes back to 1650 B.C. The early Egyptian records are devoted mainly to the medical treatment of cataract, epiphora, trachoma, and other ailments of the eye. While we give credit to these ophthalmologists as pioneers, we must acknowledge that ophthalmology in ancient Babylon-Assyria and Egypt was governed principally by superstition and magic.

Modern ophthalmology dates back, not to Babylon or Egypt, but to Greece. There in the fifth century B.C. lived Hippocrates, considered today as one of the greatest ophthalmologists of all time, not because, when measured by today's standards he fitted this characterization precisely, but because he was the first physician, the father of all scientific medicine, of all natural science in general.

HIPPOCRATES described the eye as consisting of three membranes: the white, the soft, the spider-web-like. His theory was that these membranes are distended by the ocular humors, aqueous, vitreous, crystalline. He knew the optic nerve, but did not understand its functions. He considered either the vitreous or the crystalline the essential organ of vision, rather than the nerve and retina.

Hippocrates resorted largely to restricted diet and hot foot baths in treating eye diseases. He also employed cupping and venesection. Burning out the blood vessels in the temple or forehead was a favorite remedy. He treated granular eyelids with frequency and success by rubbing the inner surface of the lids with milesian wool wound about a spindle-shaped core of hard wood.

THE history of the evolution of the cataract operation is exceedingly interesting. The operation was first performed successfully by Daviel in April, 1747. An attempt previously by him in 1745 had been made in which the lens was broken up and the cornea split so that it might be washed out.

In the latter operation, Daviel attempted a depression, but found it impossible to move the lens out of its seat. Then, as he afterward explained, "I decided to open the lower portion of the cornea in order to get my needle more certainly into the posterior chamber. For

a long time, I held the cornea up by a small forceps. At last, I brought forward the lens." This, then, was the first case of cataract extraction in the modern sense of the term, and the results were both perfect and permanent.

BLINDNESS is always a matter of degree, graduating from absolute blindness or loss of ability to perceive the sensation of light, down through the various states of partial vision to the point where the ability to describe the letters of the Senellen chart at twenty feet approaches the line of what is deemed normal vision.

An article by the National Society for the Prevention of Blindness states there are 50,000 school children who can not see nearly as well as they should, and the appalling fact is that only 4,000 of this group are receiving special instruction, then 46,000 boys and girls are sitting in classrooms trying to compete in a race in which they are handicapped at the start. They are probably being called stupid, when their eyes and not their intellects are at fault.

CHILDREN themselves do not always know what is wrong. They have no way of knowing why the boy across the aisle understands exactly where the teacher is pointing when she indicates a colored map that hangs on the wall. To the children with defective eyesight the map is only a blur of so many

colors. They can not understand why the other children complete the answers so quickly when the teacher places a list of questions on the board in front of the class.

Now and then a child will discover that the blackboard in the school room is moving farther and farther away, and that the words in his text book are growing smaller and smaller. When this occurs, he has a strange, startled sense of fright. He fears that he is going blind and yet he will not voice the hated word, thinking that if it is kept a secret, maybe blindness will not overtake him. So he locks up his secret in a sensitive, misunderstood little heart.

FOURTEEN states are providing special instruction for children whose eyes are defective. They are placing lamps in the darkness. But in the other thirty-four states these handicapped children go stumbling along the same road the others take, faltering of course, and wondering why they can not keep up. The amount of added expense required for special instruction in such instances is little compared with the human anguish that a child with defective eye-sight can suffer.

A study of the Federal census for 1930 on the blind shows there were 63,489 blind persons reported in the United States, averaging 517 per million of population. New Mexico was highest with a rate of 1,434 per million; Missouri second with 1,069 per million; West Virginia, with 814 blind, had a rate of 471 per

million, while only nineteen states reported a lower rate.

The case of blindness encountered most frequently by you is optic atrophy with tabes being the underlying cause in most cases of simple atrophy, followed next by paresis, then inflammatory atrophy and last a break in the nerve due to compression.

GLAUCOMA, second in importance, is one of the groups in which high hopes may be entertained for an improvement in the index. The chronic form of the disease is insidious and very difficult to detect without a special examination. The tension of the globe is but moderately elevated, and often the field of vision is greatly constricted before the sight is affected sufficiently to excite the patient's attention unless an acute attack occurs.

It has been said of tuberculosis that fortunate is the patient who has his diagnosis made by a sub-lethal pulmonary hemorrhage. An exact parallel is seen in glaucoma with reference to the insidious character of the disease and the sharpness of the acute attack. It is in this acute attack that the practitioner will be able to distinguish himself. He is very likely to be called at night to find the patient suffering from an acutely inflamed eye with a steamy cornea and dilated and fixed pupil. The patient is complaining of pain, headache, nausea, and even vomiting.

IF the physician detects the true nature of the condition, he will be able to cut short the attack by miotics and hot compresses, and further medical or surgical treatment may save practically all of the vision. On the other hand, should the condition be mistaken for iritis and atropine be given, an extremely serious situation is produced, which is quite liable to be fatal to the sight of the eye. Hence, it is very well worth while to be certain to rule out glaucoma in the presence of an acutely inflamed eye before administering atropine.

IRITIS can be diagnosed grossly only by the presence of adhesions between the iris and the crystalline lens, although when the eye is viewed in a very bright light and with moderate magnification, other factors may be brought to bear upon the question. Under these conditions, one may see deposits of exudate and inflammatory cells upon the inner surface of the cornea, or notice the turbid aqueous humor. When these are seen, the diagnosis of iritis is proper, even though there be a secondary elevation of the tension of the eye known as secondary glaucoma. In this case, atropine is proper and necessary.

A further helpful fact is the history. In glaucoma the attack comes on suddenly, is excruciatingly painful and is apt to be precipitated in periods of stress of emotion, or merely at night, probably due to dilatation of the pupil.

THE slit lamp and corneal microscope, as well as an instrument for measuring the pressure of the eyeball, are of great importance in diagnosing the borderline cases, but a great deal can be done without these. If there be any doubt, atropine should be withheld until consultation can be secured, for the penalty of withholding atropine in iritis is much less than that for giving the drug in glaucoma, and a few hours of hot compresses will be of considerable benefit in either condition.

The corneal ulcer is another condition with which the practitioner will oftentimes be confronted. Here it is absolutely essential to get immediate control of the infection, because if allowed to go too long, a large scar will be the result. Should this scar happen to be over the pupillary area, the vision will be greatly reduced and the amount of vision lost depends entirely on the size of the scar.

Hence in removing foreign bodies, especially over the pupillary area, extreme care must be used to do as little damage as possible to the cornea. Denuding the first two of the five layers of the cornea is permissible, but any damage done beneath this will result in scarring.

THE slowly developing senile type of cataract is likely to be well handled by the medical man. No great danger attends delay in taking action to restore vision and, in fact, great dissatisfaction is often justly registered by

patients who have been subjected to operation with fairly good sight in the other eye.

The results of cataract removal vary with the operator and his method, but standardization of technique, and the avoidance of certain fixed risks, combined with a rational and effective method of operating secondary cataract, will produce good results in this group. Responsibility here is solely with the ophthalmologist.

TRACHOMA, of varying importance in different parts of the world, is relatively rare in certain areas of America. This is very fortunate for the disease is naturally intractable and requires long and conscientious treatment. We must admit, in spite of recent work, that the organism producing this disease is as yet unknown. However, as the oldest recognized disease of the eyes, and one specific to the eyes, it has received considerable attention and treatment is definite.

IT is characterized by round-cell infiltration of the lymphoid tissues of the conjunctiva and appears as a hyperplasia of the follicles of the lids. Any follicular conjunctivitis which does not respond to treatment is suspicious, especially when accompanied by the formation of a pannus at the upper margin of the cornea. If any feature of the disease is diagnostic, it is the pannus for every case shows an involvement of this region, ranging

from a few superficial blood vessels dropping down on the cornea from the limbus to a thick, rough, elevated opaque mass covering practically the entire cornea and obscuring the sight.

While this change is going on, there is invasion of the tarsus of the upper lid which most frequently causes softening, infiltration, scarring, distortion and drooping of the lid, as well as a condition of entropion in which the lashes are pulled inward and rub against the globe.

This entropion causes further irritation and ulcers as a result are not infrequent. Trachoma should, therefore, receive careful, intelligent, and prolonged treatment to eradicate the condition and to prevent and correct its many complications.

OPTHALMIA neonatorum, while not so prevalent as before the adoption of the method of Crede, is still with us and when it occurs calls for immediate and energetic treatment. The process is highly purulent, ulcerative and, as you all know, infectious. Treatment consists of keeping the conjunctival membranes free from the infected pus and mucus which forms so rapidly. In this connection, it is well to mention that a routine irrigation with boric acid solution every two hours is not always sufficient, as the lids must be kept clean, even if irrigation every thirty minutes is necessary.

MOREOVER, a bland antiseptic, preferably one per cent mercurochrome or twenty per cent argyrol, must be used intermittently, and the lid margins protected with an ointment. The important point is to keep up the treatment both day and night for, by so doing, we know that corneal opacities from ulceration, as well as perforation of the cornea and, finally, phthisis bulbi, those dreaded sequelae of this condition, may and can be prevented.

PHYLYCTENULAR kerato-conjunctivitis to the practitioner sounds like a rare disease. It is in reality one of the most common diseases of the eye and said by many to cause more poor vision than any other eye condition. Here we will find an intense aversion to light, it being sometimes almost impossible to open the lids because of the spasm.

The lesion is a plugging of one or more of the capillary loops at the margin of the cornea with round-cell infiltration of the tubercular type. Hence, the nodule, which has a tendency to ulcerate, may be looked for at this margin.

WHILE focal infection may play a part in precipitating this disease, we feel that the condition is the expression of a tubercular diathesis and that these phlyctenules, allergic in character, are a local manifestation of the individual to tuberculin, usually resulting from a tuberculosis of the glandular type. Our treatment, therefore, calls for regulation of

hygiene in every way; in fact, at times for the full routine care of the tuberculous child. Under this treatment, the lesions will, in most cases, clear and can be kept from appearing on the cornea and threatening the sight.

HOWEVER, there are some very obstinate cases that will not respond to this treatment, and in the past year we have used tuberculin in practically all of these cases with very excellent results. Beginning with one (1) minim of Serial Dilution Number One of Tuberculin Residue, given twice a week and increasing one (1) minim each dose, a marked diminution in the number of phlyctenules has been noted after the second or, at most, the third injection. While the use of tuberculin in the treatment of phlyctenular kerato-conjunctivitis is not in general use, yet the results obtained by those who have used it are most gratifying.

Last, but of great importance, is the consideration of convergent strabismus, or uncorrected squint, whether based upon congenital paralysis or refractive errors.

IT has been somewhat of a surprise to find so many excellent physicians who do not know that most children with one eye markedly crossed, which, of course, prevents the child from using this eye, will be practically blind in that eye upon reaching the age of seven. Therefore, you can see that preserva-

tion of binocular vision hinges upon the use of both maculae of the eyes at the same time before the child reaches that age.

To repeat, if a child's eye is not straightened by the time he is seven years of age, the chances are that he will lose the vision entirely in the squinting eye. The exception to this is the alternating type, which comprises a very small number.

ARE there any parents who would not keep their child in the hospital for weeks to save the vision of an eye from any cause? You may say no, yet in cases of convergent strabismus we see almost every day children or adults blind in one eye because of ignorance or neglect.

The handicap to children with this deformity begins when they enter public school where they are forced to listen to the ridicule of schoolmates. This constant reminder through the school age by thoughtless children develops a marked inferiority complex that will in most cases serve as a distinct handicap throughout life, regardless of the vocation they undertake.

THAT this complex exists in later life is proven by the fact that most adults agree that they are always conscious of their eye turning in, and that they are placed at distinct disadvantage with such an affliction.

Therefore when a case of this kind is discov-

ered, it is the duty of the physician to place his patient under the care of a competent ophthalmologist immediately. It is never too soon to start correction and delay could soon result in marked loss of vision. Careful refraction which, combined with training of the weakened eye by various methods, may restore binocular vision while the fusion center is yet impressionable.

IT is a common fault to assure parents that the child will outgrow this condition. True enough, occasionally the eyes do align themselves in later life, but not before the real damage has been done. Regardless of whether the eyes should perchance straighten, we have inexcusably punished the patient with a blind eye, whereas with definite corrective measures we could very easily have bequeathed him an eye that was perfectly normal and, in every respect, a healthy and useful organ.

If we find the eyes do not straighten with the various corrective measures outlined by the time the child reaches the age of six or seven, an operation should be performed. Such surgery consists of a shortening of the external rectus muscle by resection, and a lengthening of the internal rectus by tenotomizing. This is a simple procedure accompanied by a minimum of danger to the sight, and necessitating a stay of only four or five days in the hospital.

THIS operation in adults should be performed under local anesthesia. While the vision will not be restored, they feel fully compensated in freedom from self-consciousness and a possible inferiority complex.

The gratitude expressed by some of these people, especially young girls and women, upon whom I have had the pleasure of correcting this deformity has been second only to that of some to whom I have had the pleasure of restoring their sight.

